

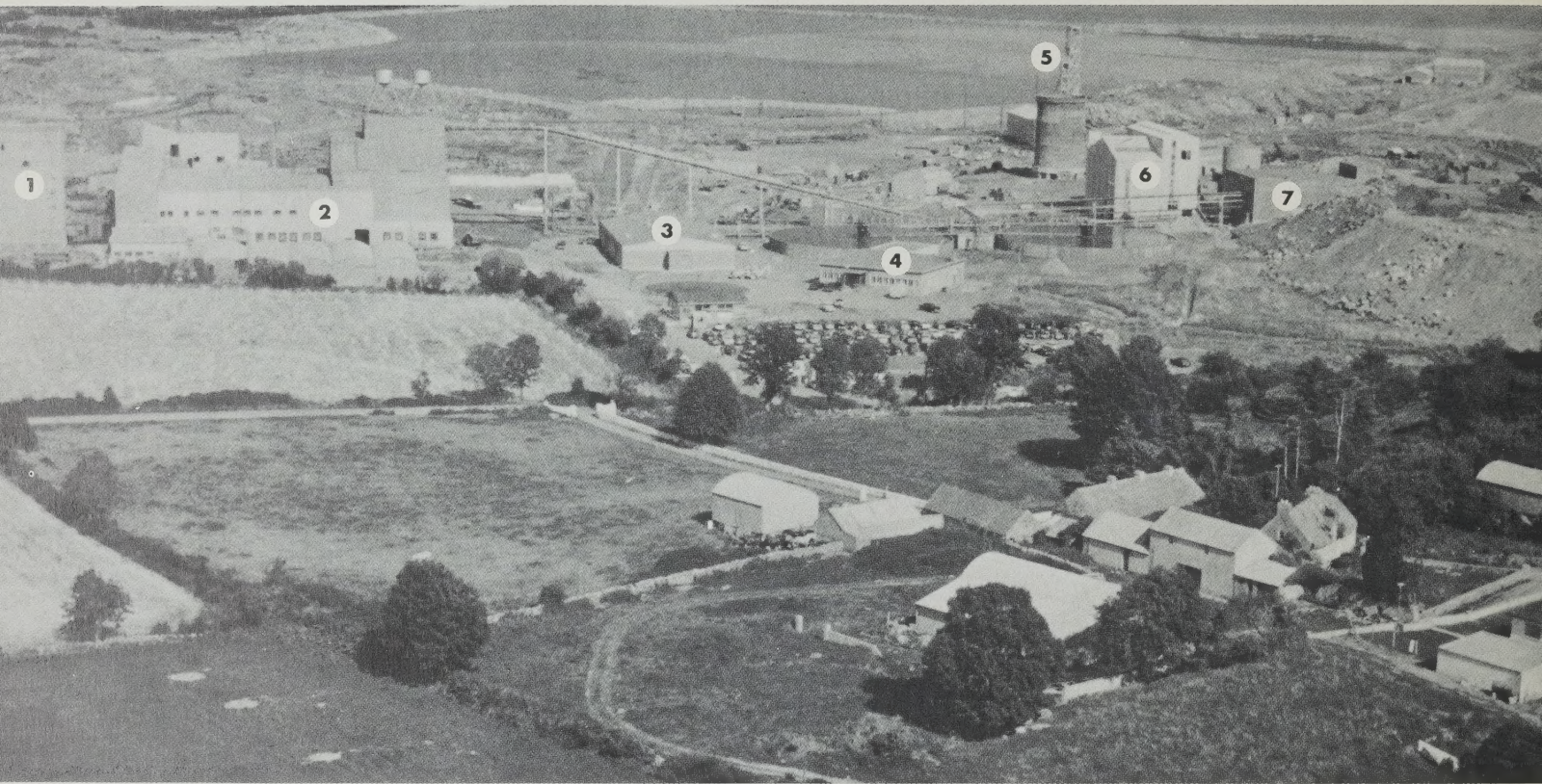
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**ANNUAL
REPORT
1971**



**NORTHGATE
EXPLORATION
LIMITED**



Annual Report 1971

Contents

1. Zinc calciner plant for the treatment of zinc oxide calcine was commissioned in 1970.
2. The main concentrator building. Many additions and modifications have been made since this plant commenced operation in 1965.
3. New office and changehouse complex.
4. Main office building.
5. Shaft headframe and hoist, partially obscured by the new coarse storage bin.
6. Dense media separation plant where primary ore will be preconcentrated and the resultant upgraded product then treated in the concentrator. When full underground production is achieved this plant will treat 850,000 tons annually.
7. Primary crusher building.

FRONT COVER

This scene at the Tynagh Mine in County Galway was taken during mid-1971 while construction of the new facilities in preparation for the treatment of pit primary and underground primary ore was in progress. These new facilities including the underground development, represent a capital investment exceeding \$9 million.

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Financial Highlights

	1971	1970
Net smelter value	13,187,000	19,646,000
Operating income	4,257,000	10,514,000
Non-operating revenue (net)	358,000	1,458,000
Interest expense (including bond interest)	303,000	338,000
Cash flow	3,431,000	10,655,000
Per share	\$0.57	\$1.78
Depreciation and amortization	4,187,000	3,537,000
Income (loss) before extraordinary item	(756,000)	7,118,000
Per share	(\$0.13)	\$1.19
Net income (loss) after extraordinary item	(1,306,000)	6,268,000
Per share	(\$0.22)	\$1.05
AT YEAR END		
Working capital	\$ 128,000	\$ 6,521,000
Total assets	41,327,000	42,926,000
Shareholders' equity	32,935,000	35,751,000
Investments and advances (at cost)	13,193,000	12,137,000
Less provision for decline in value	1,400,000	850,000
	11,793,000	11,287,000
Fixed assets	21,924,000	19,786,000
Less accumulated depreciation	10,766,000	8,356,000
	11,158,000	11,430,000
Shares outstanding	5,982,000	5,982,000

Production Highlights

Tynagh Mine	1971	1970
Tons of ore treated	675,781	697,643
Production of concentrates		
Tons of lead concentrates	53,932	92,759
Tons of zinc concentrates	43,779	22,051
Tons of bulk concentrates	52,905	29,683
Total tons of concentrates	150,616	144,493
Metals contained in concentrates (a)		
Lead (lbs.)	78.5 million	106.8 million
Zinc (lbs.)	63.9 million	39.6 million
Copper (lbs.)	4.6 million	5.6 million
Silver (ozs.)	1,057,000	1,748,000
Gortdrum Mine		
Tons of ore treated in concentrator	536,638	510,636
Tons of concentrates produced	12,949	13,681
Tons of roasted concentrates produced	12,394	9,818
Flasks of mercury recovered	2,345	1,304
Metals contained in roasted concentrates produced		
Copper (lbs.)	8.5 million	6.7 million
Silver (ozs.)	350,760	295,550
Tons of concentrates sold	12,661	9,550
Flasks of mercury sold	2,232	1,610
Metals contained in concentrates sold (a)		
Copper (lbs.)	8.7 million	6.3 million
Silver (ozs.)	366,000	246,000

NOTES: Some of the 1971 figures have been restated from those previously reported.
(a) Totals of metals contained in concentrates are subject to smelter deductions.

Northgate Exploration Limited

EXECUTIVE AND HEAD OFFICE	Suite 2602, Royal Trust Tower, Toronto-Dominion Centre, P. O. Box 27, Toronto 111, Canada Telephone: Area Code 416-362-2781, Telex 06-217766
DUBLIN OFFICE	Irish Base Metals Limited — Gortdrum Mines (Ireland) Limited 162 Clontarf Road, Dublin 3, Republic of Ireland Telephone: 332211, Telex 5881
LONDON OFFICE	Northgate Metals and Minerals Limited Stanhope House, 47 Park Lane, London W1, England Telephone: 01-491-7531, Telex 267615
MINE OFFICES	Irish Base Metals Limited Tynagh, County Galway, Republic of Ireland Gortdrum Mines (Ireland) Limited Tipperary, County Tipperary, Republic of Ireland
AUDITORS IN CANADA	Thorne, Gunn, Helliwell & Christenson, Chartered Accountants, Toronto, Canada
AUDITORS IN IRELAND	Griffin, Lynch & Co., Dublin, Republic of Ireland
BANKERS	The Toronto-Dominion Bank, Toronto, Canada The Royal Bank of Ireland, Dublin, Republic of Ireland
TRANSFER AGENTS	CANADA — Crown Trust Company Toronto, Ontario; Calgary, Alberta; Vancouver, British Columbia UNITED STATES OF AMERICA — The Bank of New York, New York, N.Y. UNITED KINGDOM — Charter Consolidated Limited, Ashford, Kent, England
REGISTRARS	CANADA Canada Permanent Trust Company, Toronto, Ontario; Calgary, Alberta; Vancouver, British Columbia UNITED STATES OF AMERICA Bankers Trust Company, New York, N.Y. UNITED KINGDOM Morgan Grenfell & Co., Limited, London, England
SOLICITORS	Fasken & Calvin, Toronto, Canada Olin, Murphy, Manuel & Lynch, New York, U.S.A. Whitney, Moore & Keller, Dublin, Republic of Ireland
STOCK EXCHANGE LISTINGS	New York Stock Exchange, New York, U.S.A. The Stock Exchange, London, England Toronto Stock Exchange, Toronto, Canada
THE 1972 ANNUAL MEETING OF SHAREHOLDERS	of Northgate Exploration Limited, will be held April 28, 1972, in the Royal York Hotel, Toronto, Canada, at 11:00 o'clock A.M. A formal notice of the meeting, together with proxy statement and form of proxy, will be mailed to each shareholder during March, at which time management will request proxies.

Underground at the Tynagh Mine showing mechanized load-haul-dump unit in operation during the development of the underground mine for scheduled full production during late 1973 or early 1974.

To the Shareholders:

Financial results for 1971 were adversely affected by several factors, mainly lower prices for lead, copper, silver and mercury; increased mine operating costs; and higher smelter treatment charges.

Financial Results

Net revenue from sales of metals and metal concentrates totalled \$13,187,000, a decline of approximately 33% from the 1970 figure of \$19,646,000, the combined effect of lower metal prices and increased smelter treatment charges.

Cash flow, which includes miscellaneous non-operating revenue (\$358,000 in 1971 versus \$1,458,000 in 1970), was \$3,431,000 equal to \$0.57 per issued share as compared with \$10,655,000 or \$1.78 per share in 1970.

Net loss for 1971 after an extraordinary item was \$1,306,000 or \$0.22 per share compared with a net profit in 1970 of \$6,268,000 or \$1.05 per share, also after an extraordinary item.

The extraordinary items in 1971 and 1970 were provisions for the decline in the value of investments amounting to \$550,000 or \$0.09 per share and \$850,000 or \$0.14 per share, respectively.

Variations in metal prices had a significant effect on mine operating profit margins and income.

In respect of Tynagh Mine production, the average prices received during 1971 for lead, copper and silver were lower by approximately 16%, 22% and 12% respectively than those received during 1970. Zinc was the exception — the average price received for this metal during 1971 was approximately 12% higher than that realized in the preceding year, the result of the increase in the European Producer Price from £127.95 to £150 per metric ton in mid-1971.

Similarly, the average prices received in respect of Gortdrum Mine sales of metals and metal concentrates during 1971 for copper, silver and mercury were lower by approximately 14%, 10% and 28% respectively, than the prices realized in the preceding year.

The following is a comparative table showing the average metal prices received during 1971 and 1970, based on London Metal Exchange quotations (Euro-

pean producer price for zinc) expressed in equivalent U.S. funds:

	<u>1971</u>	<u>1970</u>
Tynagh Mine		
Lead	11.3¢ per lb.	13.4¢ per lb.
Zinc	15.8¢ per lb.	14.1¢ per lb.
Copper	49.7¢ per lb.	63.7¢ per lb.
Silver	\$1.52 per oz.	\$1.78 per oz.
Gortdrum Mine		
Copper	49.5¢ per lb.	57.3¢ per lb.
Silver	\$1.55 per oz.	\$1.73 per oz.
Mercury	\$292 per flask	\$407 per flask

While it is always difficult at this early time of the year to forecast the results for the ensuing ten months, it is anticipated that the average prices to be realized from 1972 sales of metals and metal concentrates should show an improvement over those received in 1971, particularly in respect of lead and zinc. Since the end of 1971, the London Metal Exchange quotation for lead has advanced from the equivalent of 10.9¢ (U.S.) per lb., to a current range around 14¢, and the present European Producer Price for zinc at the equivalent of 17.7¢ (U.S.) which compares with the average received for this metal during 1971 of 15.8¢ per lb.

Current prices for both copper and silver closely approximate the average received for these two metals during 1971 and are not expected to materially improve from these levels during the current year. Prevailing quotations for mercury are substantially below the average price received in 1971.

Operations

Ore treatment rates at both the Tynagh Mine and the Gortdrum Mine, operated by your Company's wholly owned subsidiaries, Irish Base Metals Limited and Gortdrum Mines (Ireland) Limited, were within reasonable range of forecast schedules for 1971.

Tynagh Mine

Metallurgical recoveries and metal content for certain ore types, notably the zinc oxide ore, were moderately below anticipated levels. Some difficulties are still being experienced in the continuous



operation of the zinc calcining plant resulting in a build-up in the inventory of uncalcined zinc oxide concentrate.

Initial test runs of the new underground crusher, hoist, dense media plant and conveyor system were made during late 1971. The phase-in of these new facilities, including the treatment of some underground primary ore, is scheduled for the current year. Full production of the underground primary ore will probably be achieved late in 1973 or early 1974.

Gortdrum Mine

Although concentrate shipments were higher at 12,661 tons during 1971 as compared with 9,550 tons in 1970, and sales of mercury increased to 2,232 flasks (76 lbs. each) from 1,610 flasks in the previous year, the revenue derived, only made a modest contribution to Northgate's consolidated cash flow, and Gortdrum Mines (Ireland) Limited recorded a net loss in the year of \$93,605.

Under prevailing marketing conditions and current metal prices, and assuming no abnormal increase in operating expenses, present mining plans envisage the removal of ore to about bench 12. The inventory of concentrates and metals at December 31, 1971, consisting of approximately 9,300 tons of concentrates plus contained and extracted mercury, is valued at

\$2,520,000. These are valued at the lower of cost or estimated realizable value.

Mine operations are commented upon in greater detail on pages 16 to 19 of this report.

Forecast of 1972 Operations

The currently projected operating schedule for the Tynagh Mine during 1972 envisages the mining of approximately 740,000 tons of ore including around 355,000 tons of pit primary and some underground ore. Preconcentration of primary ore in the heavy media plant is expected to reject approximately 40% of the waste and low grade material with the resultant upgraded product then treated in the concentrator. The total ore to be treated in the concentrator during 1972, including the product from the dense media plant, will approximate 600,000 tons as compared with the 675,781 tons of secondary ore treated during 1971.

The expected concentrate production of approximately 152,000 tons, consisting of 71,000 tons of lead concentrate, 38,000 tons of zinc concentrate and 43,000 tons of bulk concentrate, is moderately higher than the 150,616 tons produced during 1971.

As previously noted, income from the Gortdrum Mine is a factor of concentrate and metal sales rather than mine operations as concentrates and metals pro-

duced are not taken into income until sold. Certain portions of the existing inventory of concentrates at the Gortdrum Mine are classified as non-current as marketing is not expected within the 1972 calendar year.

Capital Expenditures

Capital expenditures during 1971 totalled \$5,563,000 substantially in connection with the preparation for production of the Zone II area of the underground mine at Tynagh and related new treatment and other ancillary equipment. The anticipated cost to complete this program, which will be expended during the current year, is approximately \$1,875,000.

Notwithstanding the disappointing financial results of 1971 — the effect of the aforementioned depressed metal prices and other factors — we are optimistic regarding the longer term outlook and economic viability of the Tynagh Mine, predicated upon favourable metal prices and assuming no significant increase in presently forecast operating costs. This is evident in the very substantial expenditure in the development of the underground mine for planned full scale operation during late 1973 or early 1974, representing a capital investment of more than \$9 million.

We are also continuing in our efforts to further explore the mine area and anticipate during the cur-

rent and coming years an acceleration in these objectives. On the basis of geological indications and past experience we are hopeful that further ore will be found and developed extending the life of the mine beyond the period that can now be reasonably estimated predicated upon the known reserves in Zone II and the inferred reserves in Zone III.

Exploration

Your Company's expenditures for exploration during 1971 amounted to \$1,081,000. This is separate from the substantial combined expenditures of affiliated companies.

Economic considerations and other factors made it necessary for your Company to review both its exploration budgets and priorities for the current year. In consequence, a decision was made to phase out direct exploration in North America and Europe while increasing the emphasis of activity in the Republic of Ireland. Importantly, through its principal affiliated companies, Northgate continues to participate in extensive exploration in other countries.

A pertinent factor in defining your Company's basic exploration priorities is the realization that one of the principal characteristics of most new mining projects is that they often involve large tonnage but medium to low grade ore deposits which require both con-



siderable time and expenditure to bring them into production. The inherent high risks of mineral exploration, ensuing costs of conducting studies of the feasibility of such projects plus the substantial capital investment for treatment plants, etc., is further compounded by uncertainties regarding future metal prices.

This tends to inhibit decisions to even initiate exploration unless there is appropriate recognition in the form of incentives or tax reliefs in compensation of these risks which are attendant on the sustained growth and expansion of the mineral extractive and related secondary industries.

The mining industry recognizes that the production and marketing of metals is a very highly competitive international business. There is no shortage, either now or in the foreseeable future, of the key industrial metals. Any country that adopts a policy of restricting or deferring full economic development of mineral and other natural resources must realistically recognize the possibility of future technological developments resulting in the creation of lower cost substitute materials as has already been demonstrated in the case of synthetic rubber, plastics, etc.

A natural resource, such as base metals, has value only after it has been mined, processed and marketed. Moreover, world requirements of strategic industrial metals will most certainly be satisfied — if one country does not meet the demand, another will.

Affiliated Companies

During the year, your Company sold its approximate 22% interest in Western Mines Limited to W. R. Grace & Co. for a consideration of 100,000 of the latter company's capital stock with the provision of being entitled to receive up to a maximum of 29,032 additional shares. Pursuant to this agreement, Grace & Co. delivered to Northgate the 100,000 newly issued shares and agreed to deliver such additional shares to the extent that the total number of Grace & Co. shares (up to a maximum of 29,032) will have a market value equal to Northgate's cost of \$4,006,000 for the Western Mines shares.

This value is to be calculated using the greater of (a) the quoted market price of Grace & Co. shares on October 21, 1971, or (b) the average market prices per share quoted during the two months ending January 31, 1973.

Our principal affiliated companies, Anglo United Development Corporation Limited, Whim Creek Consol-

This picture of the concentrator complex at the Tynagh Mine was taken during 1969 prior to the recent major construction program in which many new facilities and buildings were added for the treatment of pit primary and underground primary ore. At that time the calciner plant was under construction and the new concentrate dryer and concentrate storage facilities had recently been completed.



idated N. L. and Westfield Minerals Limited, continued their respective activities as described in brief outline on pages 20 to 22 in this report. Each of these affiliates is now independently funded thereby providing an important extension of your Company's role in mineral exploration separate from its 1972 budgeted programs.

Pursuant to an underwriting/option agreement dated July 27, 1971 **Anglo United Development Corporation Limited** sold 875,000 of its treasury shares, the proceeds of which amounted to approximately \$950,000. Subsequently during February 1972 under the terms of that agreement (as amended) a further 125,000 treasury shares were sold providing additional working capital of \$136,250. Your Company holds 1,089,500 shares of Anglo United equal to approximately 17% of the presently issued shares.

In connection with **Whim Creek Consolidated N. L.** in which your Company holds 2,250,000 shares or a direct interest of approximately 20%, the former option agreement covering the purchase of further treasury shares exercisable on or before December 31, 1971 has been revised. Under the new agreement, your Company has been granted an option to purchase 2,250,000 shares of Whim Creek at the greater of A\$1.50 per share or a price equal to a 10% discount on the average market price in Australia for the 90 days preceding the date of exercise of the option. The option extends to December 31, 1974. Westfield Minerals Limited has similarly been granted an option to purchase 2,750,000 shares on the same terms.

Under the revised agreement, your Company, jointly with Westfield Minerals Limited, has undertaken to exercise its option, in whole or in part, on request, to provide additional funds required by Whim Creek during the term of the option agreement to carry out exploration or development programs approved by the Board of Directors of Whim Creek.

Whim Creek is adequately funded for its presently planned exploration programs, reporting working capital for the period ended June 30, 1971 of A\$3,151,934.

During 1971 an underwritten rights offering was made to the shareholders of **Westfield Minerals Limited** resulting in the subscription for 2,059,500 of its capital stock and 1,029,750 share purchase warrants, the proceeds of which amounted to \$1,522,469. Each warrant entitles the holder to purchase one common share from the treasury at a price of \$1.25 per share on or before June 14, 1973. At December 31, 1971 there were 991,585 warrants outstanding.

Your Company exercised its subscription rights increasing its shareholdings in Westfield Minerals Limited to 2,903,075 shares equal to approximately 45% of the presently issued shares and has 367,179 warrants entitling the purchase of a like number of shares on the aforementioned terms.

The common shares and warrants of Westfield Minerals Limited are now listed on the Toronto Stock Exchange.

Westfield Minerals Limited reported working capital (exclusive of its investments) of \$854,677 at December 31, 1971. This compares with a working capital deficiency of \$692,115 at December 31, 1970. Westfield is actively participating in exploration both on its own account and through affiliated companies, principally Vestgron Mines Limited and Whim Creek Consolidated N. L.

Dividends

During 1971 your Company declared only one dividend of \$0.25 (U.S.) per share, paid on July 16 to shareholders of record June 30, 1971. In November the Board of Directors announced that the dividend normally paid during December was being omitted owing to the unsatisfactory financial results from mining operations.

The Company's working capital and financial commitments preclude consideration of dividend payments until circumstances materially improve.

Organization

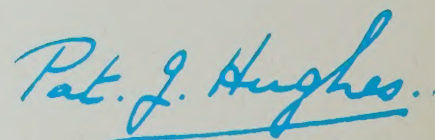
Certain corporate changes occurred during the year and in the period subsequent to the year end. Mr. G. Warren Armstrong, Secretary and a Director, submitted his resignation effective December 15, 1971; Mr. Evan W. T. Gill, a Director, resigned effective December 31, 1971; Mr. George T. Smith, Executive Vice-President and a Director, assumed the office of Secretary; and Mr. Michel Trebucq, Vice-President of Marketing, was appointed a Director.

Mr. Murray K. Pickard, a Director, will relinquish his position as Vice-President of Operations as at March 31, 1972 and will become a mining consultant to the Company on April 1, 1972. Mr. O. A. Seeber and Mr. John A. Palmer relinquished their positions as Vice-President of Exploration and Treasurer, respectively, as at February 28, 1972. Mr. Robert H. Wright was appointed Treasurer, effective March 1, 1972.

Acknowledgements

The Directors acknowledge the efforts and cooperation of all employees during a most difficult year and particularly the mine employees for their loyal support and understanding of the financial circumstances.

On behalf of the Board of Directors,



President

March 1, 1972



Financial Statements

Northgate Exploration Limited

Auditors' Report

To the Shareholders of
Northgate Exploration Limited

We have examined the consolidated balance sheet of Northgate Exploration Limited and its wholly owned subsidiary companies as at December 31, 1971 and the consolidated statements of income, retained earnings and source and application of funds for the year then ended. Our examination of the financial statements of Northgate Exploration Limited (the parent company), and of subsidiary companies of which we are the auditors, included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances. With respect to the subsidiary companies of which we are not the auditors, we have carried out such enquiries and examinations as we considered necessary in order to accept for purposes of consolidation the reports of their auditors.

In our opinion these consolidated financial statements present fairly the financial position of the companies as at December 31, 1971 and the results of their operations and the source and application of their funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

THORNE, GUNN, HELLIWELL & CHRISTENSON,
Chartered Accountants.

Toronto, Canada
February 10, 1972

Consolidated Balance Sheet

December 31, 1971

with comparative figures at December 31, 1970
(Expressed in Canadian dollars)

ASSETS

Current Assets

Cash, including term deposits
Smelter settlements outstanding at estimated net realizable value
Concentrates and metal on hand (note 3)
Supplies at cost
Accounts receivable and prepaid expenses

Investment in Associated and Other Companies

Associated companies
 Shares at cost (note 4)
 Advances
Other listed shares (quoted market value, 1971, \$6,010,000; 1970, \$1,617,000) (note 6)
Other shares, advances and participations at cost less amounts written off

Less provision for decline in value

Fixed Assets

Buildings, machinery and equipment at cost
Land in Ireland at cost
Mining claims in Canada

Less accumulated depreciation (note 10)

Other Assets and Deferred Charges

Concentrates on hand, non-current (note 3)
Preproduction expenditures less amortization (note 10)
Underground development expenditures (note 8)
Other deferred charges (note 10)

LIABILITIES AND SHAREHOLDERS' EQUITY

Current Liabilities

Bank advances (note 7)
Accounts payable and accrued liabilities
Dividend payable
Government royalty payable
Accrued Irish income tax on interest earned
Bond principal amount payable within one year

Bonds Payable

8% First mortgage bonds due December 1, 1972 issued by a subsidiary company,
Gortdrum Mines (Ireland) Limited — U.S. \$1,834,000 (1970, U.S. \$2,151,000)
Less current portion included with current liabilities

Shareholders' Equity

Capital stock (note 9)
 Authorized — 10,000,000 shares of \$1 each
 Issued — 5,982,000 shares
Contributed surplus
Retained earnings

Approved by the Board: G. T. SMITH, Director. M. K. PICKARD, Director.

See accompanying notes

Northgate Exploration Limited

(Incorporated under the laws of Ontario)
and its wholly owned subsidiary companies

1971	1970
\$ 125,000	\$ 5,219,000
2,190,000	2,267,000
4,073,000	2,582,000
1,634,000	1,292,000
498,000	314,000
<u>8,520,000</u>	<u>11,674,000</u>
5,063,000	8,322,000
391,000	242,000
6,902,000	2,374,000
837,000	1,199,000
<u>13,193,000</u>	<u>12,137,000</u>
1,400,000	850,000
<u>11,793,000</u>	<u>11,287,000</u>
21,117,000	18,985,000
806,000	800,000
1,000	1,000
<u>21,924,000</u>	<u>19,786,000</u>
10,766,000	8,356,000
<u>11,158,000</u>	<u>11,430,000</u>
743,000	1,058,000
2,259,000	3,536,000
5,888,000	2,667,000
966,000	1,274,000
<u>9,856,000</u>	<u>8,535,000</u>
<u>\$41,327,000</u>	<u>\$42,926,000</u>

1971	1970
\$ 4,383,000	\$ 2,191,000
1,764,000	1,510,000
176,000	857,000
235,000	439,000
1,834,000	156,000
<u>8,392,000</u>	<u>5,153,000</u>
1,834,000	2,178,000
1,834,000	156,000
<u>—</u>	<u>2,022,000</u>
5,982,000	5,982,000
3,137,000	3,137,000
23,816,000	26,632,000
32,935,000	35,751,000
<u>\$41,327,000</u>	<u>\$42,926,000</u>

Foreground shows the new office and changehouse complex. Upper, from left to right, some of the new facilities related to the \$9 million construction program — shaft head-frame and hoist building, coarse ore storage bin and dense media separation plant.



Consolidated Statement of Income

YEAR ENDED DECEMBER 31, 1971

with comparative figures for 1970

(Expressed in Canadian dollars)

Revenue	1971	1970
Metals and metal concentrates	\$23,580,000	\$27,325,000
Deduct shipping, smelting and marketing expenses	10,393,000	7,679,000
	<u>13,187,000</u>	<u>19,646,000</u>
Operating Expenses		
Operating expenses other than items set out below	7,392,000	6,224,000
Administrative and general expenses	1,277,000	2,074,000
Government royalty	61,000	834,000
Interest (including bond interest, 1971, \$198,000; 1970, \$318,000)	303,000	338,000
Depreciation (note 10)	2,677,000	2,112,000
Amortization of preproduction and other expenditures (note 10)	1,510,000	1,425,000
	<u>13,220,000</u>	<u>13,007,000</u>
	(33,000)	6,639,000
Exploration (note 11)	1,081,000	979,000
	<u>(1,114,000)</u>	<u>5,660,000</u>
Interest, dividends and profit on sale of investments (note 12)	358,000	1,458,000
Income (loss) before extraordinary item	<u>(756,000)</u>	<u>7,118,000</u>
Provision for decline in value of investments	(550,000)	(850,000)
Net income (loss) for the year (note 12)	<u><u>\$ (1,306,000)</u></u>	<u><u>\$ 6,268,000</u></u>
Earnings (loss) per share		
Income (loss) before extraordinary item	\$ (.13)	\$ 1.19
Provision for decline in value of investments	(.09)	(.14)
Net income (loss) for the year	<u><u>\$ (.22)</u></u>	<u><u>\$ 1.05</u></u>

See accompanying notes.

Northgate Exploration Limited

Consolidated Statement of Retained Earnings

YEAR ENDED DECEMBER 31, 1971
with comparative figures for 1970
(Expressed in Canadian dollars)

	1971	1970
Balance at beginning of year	\$26,632,000	\$23,190,000
Net income (loss) for the year	(1,306,000)	6,268,000
	25,326,000	29,458,000
Dividends — 25¢ U.S. per share (1970, 50¢ U.S.)	1,510,000	2,826,000
Balance at end of year	<u>\$23,816,000</u>	<u>\$26,632,000</u>

Consolidated Statement of Source and Application of Funds

YEAR ENDED DECEMBER 31, 1971
with comparative figures for 1970
(Expressed in Canadian dollars)

Source of funds	1971	1970
Income (loss) before extraordinary item	\$ (756,000)	\$ 7,118,000
Add depreciation and amortization charged to income not requiring cash outlay	4,187,000	3,537,000
	3,431,000	10,655,000
Reduction in concentrates on hand, non-current	315,000	
	<u>3,746,000</u>	<u>10,655,000</u>
Application of funds		
Investments		
Shares in associated companies	(3,259,000)	422,000
Advances to associated companies	149,000	(699,000)
Other listed shares	4,528,000	1,497,000
Other investments	(362,000)	494,000
	1,056,000	1,714,000
Additions to fixed assets	2,352,000	2,197,000
Underground mine development	3,221,000	1,593,000
Concentrates on hand, non-current		534,000
Reduction in non-current portion of bonds payable	2,022,000	1,325,000
Dividends to shareholders	1,510,000	2,826,000
Other items	(22,000)	415,000
	10,139,000	10,604,000
Increase (decrease) in working capital	(6,393,000)	51,000
Working capital at beginning of year	6,521,000	6,470,000
Working capital at end of year	<u>\$ 128,000</u>	<u>\$ 6,521,000</u>

See accompanying notes.

Notes to Consolidated Financial Statements

YEAR ENDED DECEMBER 31, 1971

(Expressed in Canadian dollars)

1. Subsidiary Companies

The consolidated financial statements include all wholly owned subsidiary companies; the more significant subsidiaries are:

Irish Base Metals Limited
Gortdrum Mines (Ireland) Limited
Powertrack Mining Limited

Smelter Corporation of Ireland Limited, which is 70% owned at December 31, 1971, is not included as it is still considering the feasibility of an Irish smelter operation and has reported neither profit nor loss as all of its expenditures are deferred to future operations.

Gortdrum Mines (Ireland) Limited and Powertrack Mining Limited became subsidiaries during 1970. Consolidated income includes the earnings of Gortdrum for all of 1970 and 1971 because the 69% interest acquired in 1970 was treated as a pooling-of-interests and the 31% interest has been held substantially from commencement of production at the Gortdrum Mine. The acquisition of Powertrack was accounted for as a purchase and consolidated income includes the results of its operations from date of acquisition.

2. Currency Conversion

Current assets and all liabilities in other currencies are converted to Canadian dollars at December 31, 1971 and 1970 at rates of exchange which approximate the rate prevailing at these dates. Other assets and deferred charges, and the related depreciation and amortization charged to income, are converted at approximate rates prevailing when funds for the expenditures were provided. Other operating accounts have been converted at the average rate of exchange prevailing during each year.

3. Concentrates and Metal on Hand

Concentrates and metal on hand, in accordance with accounting practices established in prior years, have been valued as follows:

	1971	1970
Tynagh Mine, at estimated net realizable value	\$2,296,000	\$1,631,000
Gortdrum Mine, at the lower of cost and estimated realizable value	2,520,000	2,009,000
	<u>4,816,000</u>	<u>3,640,000</u>
Deduct Gortdrum concentrate classified as non-current because marketing is not expected within one year	743,000	1,058,000
	<u>\$4,073,000</u>	<u>\$2,582,000</u>

4. Associated Companies

	1971		1970	
	% of shares outstanding	Cost	% of shares outstanding	Cost
Westfield Minerals Limited	45%	\$3,412,000	46%	\$2,670,000
Whim Creek Consolidated N. L. (note 5)	20%	602,000	20%	602,000
Anglo United Development Corporation Limited	17%	624,000	20%	624,000
Smelter Corporation of Ireland Limited	70%	313,000	70%	313,000
Western Mines Limited			22%	4,006,000
Others		112,000		107,000
		<u>\$5,063,000</u>		<u>\$8,322,000</u>

The quoted market value at December 31, 1971 of the shares in Westfield Minerals, Whim Creek and Anglo United Development amounted to \$9,146,000. The quoted market value at December 31, 1970 of shares in Western Mines and Anglo United Development was \$5,106,000. However, because of the number of shares held, the quoted market value is not necessarily indicative of their realiz-

able value. Quoted market values are not given for shares in other associated companies as these shares are not listed.

The interest of Northgate Exploration in the net tangible assets of the associated companies amounted to \$2,289,000 at December 31, 1971 and \$4,314,000 at December 31, 1970.

5. Whim Creek Consolidated N. L.

Northgate Exploration has an option to purchase a further 2,250,000 shares of Whim Creek at the greater of Australian \$1.50 per share or a price 10% less than the average market price in Australia for the 90 days preceding the date of exercise of the option. The option expires on December 31, 1974.

Northgate Exploration and Westfield Minerals Limited, an associated company which has a similar option on 2,750,000 shares, and which with Northgate Exploration controls Whim Creek, have undertaken to exercise these options, in whole or in part, on request, to provide funds required by Whim Creek to carry out exploration or development programmes approved by the Board of Directors of Whim Creek.

6. Investment in W. R. Grace & Co.

Other listed shares include 100,000 common shares of W. R. Grace & Co. acquired during 1971 in consideration for 1,156,571 shares of Western Mines Limited. If in the two months ending January 31, 1973 the average market value of the 100,000 Grace shares is less than U.S. \$4,000,000 up to 29,032 additional shares of Grace will be received by Northgate Exploration so that the total number of Grace shares held will have a maximum average market value of U.S. \$4,000,000.

A condition of the agreement prevents Northgate Exploration from selling the Grace shares prior to February 15, 1973.

7. Bank Advances

The bank advances are secured by the hypothecation of certain of the investment securities.

8. Capital Commitments

Capital expenditures to which the company is committed and estimated further expenditures required to complete the development of the Tynagh underground mine amount to a total of \$1,875,000 at December 31, 1971 (1970 — \$6,100,000).

9. Stock Option Plan

Pursuant to the Officers' and Employees' Stock Option Plan, options may be granted until June 30, 1979 on up to 250,000 shares of the company's capital stock at prices equal to 90% of the closing

bid price for the company's shares on the Toronto Stock Exchange on the dates the options are granted. Options were outstanding at December 31, 1971, as follows:

No. of Shares	Price Per Share	Exercisable
60,000	\$14.51	15,000 shares annually to 1975
48,000	7.78	24,000 shares annually to 1973

10. Depreciation and Amortization

Depreciation of fixed assets has been recorded at various rates to charge the cost to income over the shorter of the expected useful life of the assets or the life of the estimated ore reserves.

Preproduction expenditures are being amortized over the estimated life of the open pit mines.

The amounts by which the cost of shares in subsidiary companies exceed the related book value of underlying net assets are being amortized over the estimated life of the Gortdrum Mine. The unamortized balances are included in other deferred charges.

11. Exploration

It is the company's policy to charge exploration expenditures to income in the period in which incurred. Development costs are deferred and amortized by charges to future income.

12. Income Taxes

Under present laws, the consolidated Irish subsidiary companies' income from mining operations is exempt from Irish income tax for twenty years from the date of commencement of production but their income from all other sources is subject to tax at full rates. Irish income tax has been deducted from interest in the statement of income in the amount of \$15,000 for 1971 and \$132,000 for 1970.

Dividends from the consolidated subsidiary companies are not subject to Irish withholding tax or Canadian income taxes.

13. Remuneration of Directors and Senior Officers

Remuneration of the company's directors and senior officers (as defined by The Business Corporations Act, 1970 of Ontario) amounted to \$365,000 for 1971 and \$279,000 for 1970.

Review of Operations

TYNAGH MINE

During the year 675,781 tons of ore were treated in the concentrator (1970 — 697,643 tons) consisting of the following ore categories and their respective metal content, with comparative statistics for 1970:

	Tons of Ore	Grade			
		Lead %	Zinc %	Copper %	Silver ozs./ ton
Sulphide	— None treated in 1971 —				
	(160,991)	(13.5)	(8.5)	(0.4)	(3.7)
Lead oxide	228,978	12.2	2.5	1.1	5.2
	(313,931)	(12.4)	(—)	(1.0)	(5.1)
Mixed oxide	172,950	11.1	9.0	0.4	2.6
	(146,333)	(7.8)	(7.5)	(0.2)	(2.4)
Zinc oxide	273,853	3.4	17.4	—	—
	(76,388)	(3.0)	(18.9)	(—)	(1.0)

The following is a summary of concentrate production with comparative figures for 1970:

	1971	1970
Tons of lead concentrates	53,932	92,759
Tons of zinc concentrates (a)	43,779	22,051
Tons of bulk concentrates	52,905	29,683
Total tons of concentrates	150,616	144,493

(a) Includes 40,467 tons of zinc oxide calcine in 1971 and 13,058 tons in 1970.

Metallurgical recoveries from the various ore categories treated (with comparative figures for 1970) were:

	Recoveries			
	Lead %	Zinc %	Copper %	Silver %
Sulphide	— None treated in 1971 —			
	(78.7)	(59.2)	(81.3)	(80.0)
Lead oxide	76.8	30.0	76.9	64.4
	(75.9)	(—)	(77.7)	(65.4)
Mixed oxide	70.9	40.5	58.5	64.4
	(51.7)	(30.6)	(44.7)	(50.5)
Zinc oxide	31.7	47.3	—	—
	(36.3)	(45.1)	(—)	(—)

Recoveries from the zinc oxide ore were well below expectations due in large part to the high slimes content which is difficult to treat. Average metal content of the zinc oxide ore was also lower than anticipated. Both grade and recoveries from the mixed oxide ore were significantly improved.

Direct operating costs per ton of ore mined and treated during 1971 averaged \$7.10 compared with \$5.65 per ton in 1970. The increase is attributable in part to the higher costs of treating the zinc oxide ore and also the escalation of both labour and material costs. During the year wages for the two principal categories of hourly rated mine employees were in-

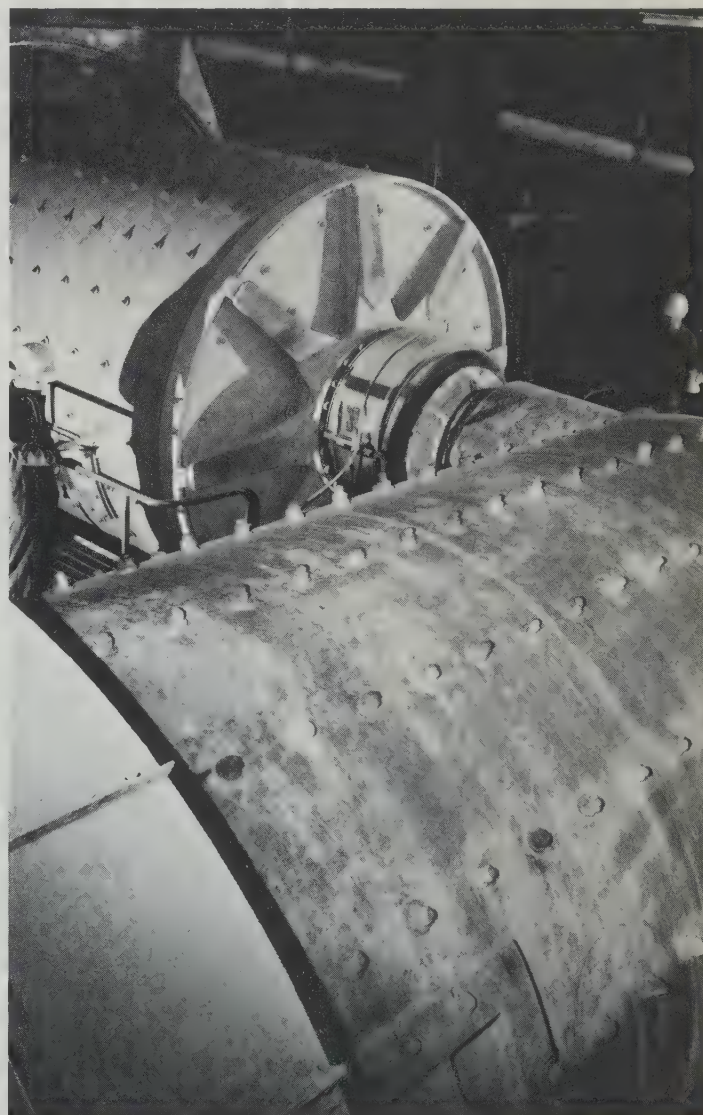
creased in conformity with the National Wage Agreement and shift workers weekly hours were reduced from 42.5 to 40 hours effective from May 1, 1971.

Production Schedule for 1972

Present operating schedule projected for 1972 assume the mining of approximately 740,000 tons of ore including approximately 355,000 tons of primary sulphide ore (mainly from the open pit reserves) which will be initially treated in the dense media plant where approximately 40% of the waste and low grade material is rejected and the resultant upgraded product then treated in the concentrator.

A total of approximately 600,000 tons is scheduled for treatment in the concentrator, including about 215,000 tons of primary sulphide preconcentrated product from the dense media plant; 127,000 tons of lead oxide; 128,000 tons of mixed oxide, which includes 23,450 tons of lead oxide copper (oxide mixed); and 133,000 tons of zinc oxide ore.

The expected concentrate production of approximately 152,000 tons, consisting of 71,000 tons of lead concentrate, 38,000 tons of zinc concentrate (including zinc oxide calcine) and 43,000 tons of bulk con-



LEFT: Ball mills in the grinding section of the main concentrator at the Tynagh Mine.

RIGHT: Trackless jumbo drill underground at the Tynagh Mine.

centrate, is moderately higher than the total of 150,616 tons produced during 1971.

Underground Development and Construction Program

There was a pronounced expansion of activity in underground mine development and construction of related underground and surface facilities during 1971. This included extensive stope preparation and completion of the underground crusher, shaft and other ancillary facilities and equipment, and surface construction including the completion of the dense media separation plant, shaft headframe, hoist, etc., which will be used in connection with the mining and preconcentration of both primary pit and underground ore, and the combined changehouse and office building complex.

The capital costs incurred in this program during 1971 amounted to \$5,134,000 and the expected additional cost to complete is \$1,875,000.

During December of 1971 initial test runs were made of the new underground crusher, hoist, dense media plant and conveyor units. The phase-in period for these new facilities commenced during January of 1972 in the treatment of pit primary ore with an

expected build up to a mining rate from this area to around 800 to 900 tons daily by mid year.

Initial production of underground ore is currently scheduled for September of 1972. The build up to full production of underground ore depends partly on the completion of the mining of open pit ore and although a target date for full underground production has not yet been established it is unlikely to be before late 1973 or early 1974.

When operating on full production from underground, it is assumed that a total of 850,000 tons of ore will be mined annually of an expected average grade of 4.28% lead, 3.12% zinc, 0.35% copper and 1.4 ounces of silver per ton. This ore will be preconcentrated in the dense media plant which, as previously described, rejects approximately 40% of the waste and low grade material to produce an upgraded feed to the concentrator amounting to approximately 510,000 tons annually.

The calculated output based on the foregoing operating schedule would be approximately 53,000 tons of lead concentrate grading about 60% lead, 4.5% copper and 15.6 ounces of silver per ton; and 41,200 tons of zinc concentrates grading about 50% zinc. The resultant total of metals contained in the concentrates (subject to smelter deductions) would approximate:

- 31,800 short tons of lead
- 2,385 short tons of copper
- 826,800 ounces of silver and;
- 20,600 short tons of zinc.

These totals compare with the metals contained in concentrates produced in 1971 (similarly subject to smelter deductions) amounting to:

- 39,245 short tons of lead
- 2,324 short tons of copper
- 1,056,678 ounces of silver and,
- 31,959 short tons of zinc.

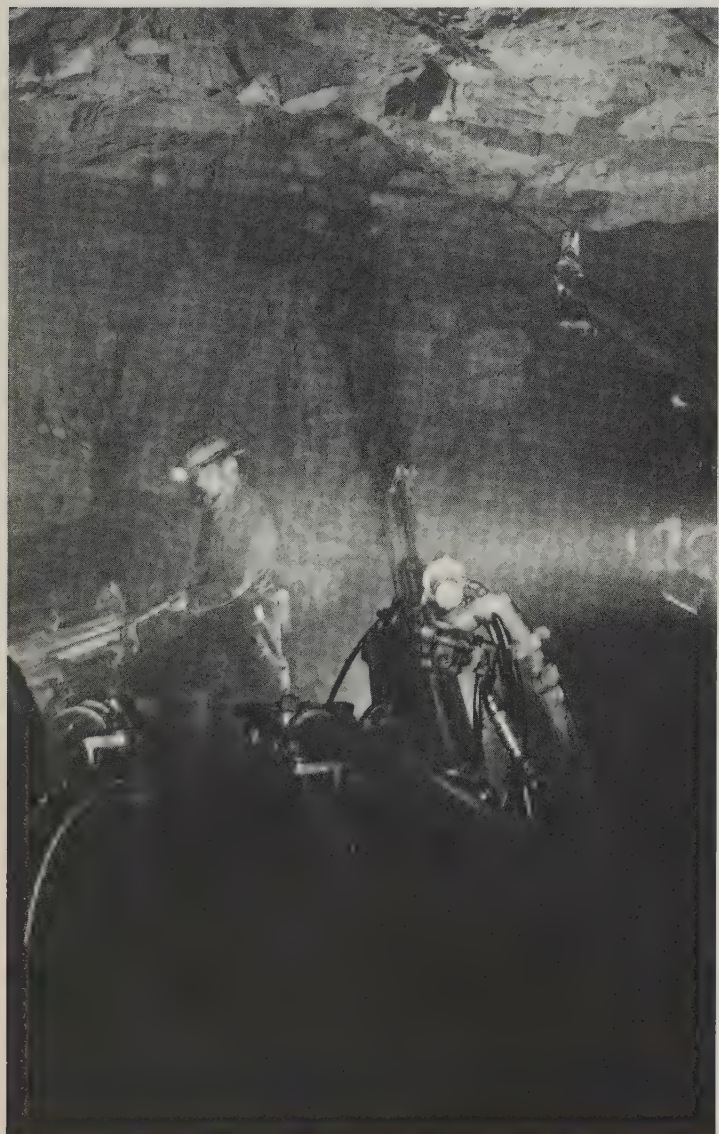
Pertinent to the projected production of the Zone II ore described in the foregoing is that the unit cost per ton of ore mined and treated will be higher but only two types of concentrates are produced, viz., lead concentrate with payable quantities of copper and silver; and zinc concentrate amenable to treatment by the electrolytic reduction method.

There would be no bulk concentrate production for which treatment charges are usually higher as is the case in the present treatment of the secondary ores from the open pit.

Ore Reserves

The extractable ore reserves as presently defined are those contained in Zone I, designated as the Open Pit Reserves, and Zone II, the primary sulphide Underground Reserves. Zone III is the drill-indicated primary sulphide mineralized zone located about 600 feet east of Zone II and no tonnage for this zone is attributed to present ore reserves pending further exploration and development.

The Zone III area is scheduled for future exploration and should add significantly to the life of the mine predicated upon the then prevailing economic factors. Access for exploration and development will be from the present underground workings.



**Summary of Open Pit Reserves (Zone I) at
December 31, 1971**

	Tons	Grade			
		Pb %	Zn %	Cu %	Ag ozs/ton
Secondary lead oxide	161,810	19.2	2.0	0.9	6.02
Secondary mixed oxide	113,080	16.6	11.7	0.4	3.91
Secondary zinc oxide	211,790	3.0	17.3	—	0.94
Primary sulphides	649,000	7.6	3.7	0.7	3.66
Total Open Pit Reserves	<u>1,135,680</u>				

Note: The following secondary ore types are not scheduled for production and are not included in ore reserves:

Silver oxide (high grade)	75,270	2.1	0.5	0.6	9.89
Silver oxide (low grade)	45,980	2.5	tr	0.4	5.50
Lead oxide (-8% Pb)	113,810	5.8	1.3	tr	tr
Total	<u>235,060</u>				

Reconciliation of Open Pit Reserves 1970 - 1971

	Tons Year End 1970	Tons Treated 1971	Tons Year End 1971	Tons Gain/Loss
Sulphide	60,836	—	—	— 60,836
Lead oxide	399,339	228,978	161,810	— 8,551
Mixed oxide	275,090	172,950	113,080	+ 10,940
Zinc oxide	502,356	273,853	211,790	— 16,713
Primary sulphide	618,446	—	649,000	+ 30,554
Sub Totals	<u>1,856,067</u>	<u>675,781</u>	<u>1,135,680</u>	<u>— 44,606</u>
Silver oxides	126,825	—	121,250	— 5,575
Lead oxide	—	—	113,810	+ 113,810
	<u>1,982,892</u>	<u>675,781</u>	<u>1,370,740</u>	<u>+ 63,629</u>

The gains and losses of ore, as described above, are due to reinterpretation and recalculation of reserve figures, plus the continuation of the previous trend of tonnage milled exceeding tonnage mined. There is a net gain in the open pit reserves before deducting the

tonnage (235,060) classified as not scheduled for production, of 63,629 tons. The net extractable reserves after deducting the tonnage not scheduled for production and therefore not included in the presently defined reserves, shows a net loss of 44,606 tons.

Underground Ore Reserves — Zone II

		Pb.	Zn	Cu	Ag
Primary Sulphide	4,400,000 tons	4.28%	3.12%	0.35%	1.4 ozs/ton

Note: Included in the above figure for Zone II reserves is a dilution allowance of 5% waste at zero grade.

Legend: Pb — lead, Zn — zinc, Cu — copper, Ag — silver

Exploration — Tynagh Mine Lease Area

During 1971, diamond drilling to follow up geophysical surveys was carried out principally in the area of the old Tynagh Mine (Carhoon). Three holes, described in the 1970 Annual Report were drilled in this area but no economic mineralization was encountered. Subsequently, a further four holes were drilled on a negative gravity anomaly to the east of Zone III.

Three of the holes intersected the North Tynagh Fault, however, the limestone was found to be extensively dolomitized and only in the fourth hole (DD 331) was there any unaltered reef limestone. This hole

intersected sulphide mineralization between 251 - 279 feet with an average of 2.5% lead-zinc combined including a short section of 14% lead-zinc. The area tested by this hole appears to be at the western limit of an anomalous zone that lies about 1.5 miles east of the Zone III mineralization.

This zone and other anomalous areas are scheduled for further geophysical surveying to locate targets suitable for test by diamond drilling.

It has not yet been possible to commence drilling the interesting copper values, which were indicated by earlier work, in the Lower Muddy Limestones below

Zone II. When the 4700 level east service drive has reached this area, a program of drilling to outline this zone will be initiated, probably around mid-1973.

GORTDRUM MINE

During the year 536,638 tons of ore were treated in the concentrator with an average grade of 1.02% copper and 0.88 ounces of silver per ton. This compares with 510,636 tons treated in 1970 grading 1.03% copper and 0.93 ounces of silver per ton.

Concentrate production in 1971 amounted to 12,949 tons with an average grade of 35.40% copper and 28.97 ounces of silver per ton. The average recovery of copper was 83.7% and of silver 79.2%. The comparable figures for 1970 were 13,681 tons of concentrates of an average grade of 33.30% copper and 29.27 ounces of silver per ton, and average recoveries of 86.3% for copper and 85.8% for silver.

Mercury Plant

Roasted concentrates produced in 1971 amounted to 12,394 tons averaging 34.38% copper and 28.30 ounces of silver per ton compared with 9,818 tons averaging 34.99% copper and 29.91 ounces of silver per ton in 1970. A total of 2,345 flasks (76 lbs. per flask) of mercury was recovered during the year compared with 1,304 flasks in 1970.

Mining and Milling Costs

Direct operating costs per ton of ore treated, which includes mining, milling, roasting, mine services, mine administration, transportation and loading of concentrates, head office costs in Ireland and exploration costs in the mine block area, amounted to \$5.82 which compares with \$5.97 per ton in 1970. The reduction of unit operating costs during 1971 reflects the treatment of ore from stockpiles in excess of additions made to these stockpiles in the year.

A total of 449,200 tons were mined during the year of which 173,300 tons were added to stockpiles and 275,900 tons were delivered to the crusher for treatment in the concentrator. The balance of the mill feed amounting to 260,738 tons was reclaimed from stockpiles.

Marketing of Metals and Concentrates

During the year 12,661 tons of roasted concentrates were shipped to smelters compared with 9,550 tons in 1970. The net proceeds from concentrates sold during 1971 was \$3,828,530 and the costs of producing these concentrates amounted to \$3,887,911.

A total of 2,232 flasks of mercury was sold during the year the net proceeds from which amounted to \$617,495. The cost of producing the mercury sold amounted to \$565,663.

The overall net loss incurred by Gortdrum Mines (Ireland) Limited in 1971 after Government royalty and amortization and other deferred charges, was \$93,605.

The substantial reduction in the average prices received for metals and metal concentrates sold during 1971 and that certain of these concentrates contained relatively high amounts of impurities with resultant higher treatment charges, adversely affected the financial results of this subsidiary.

Metals contained in concentrates shipped during the year amounted to approximately 8.7 million pounds of copper and 366,000 ounces of silver.

Ore Reserves

Estimated assured ore reserves in the mine open pit down to and including Bench No. 12, at December 31, 1971 are as follows:

Tons	Grade	
	Copper %	Silver ozs/ton
1,209,000	1.47	1.02

Note:

In addition to the ore in place below Bench No. 12, there is a further 301,000 tons of ore grade material averaging 1.24% copper and 0.88 ounces of silver per ton located adjacent to but outside of the originally planned pit boundaries. The foregoing ore below Bench No. 12 and adjacent to the originally planned pit boundaries is not presently scheduled for production and is not included in ore reserves. The feasibility of eventually mining this ore is in question but further studies are being made. Among other considerations, the price of metals and mining costs would be further determining factors.

Stockpiles at December 31, 1971

	Tons	Copper
Stockpile No. 1 (sub-ore)	56,100	0.51
Stockpile No. 2 (sub-ore)	571,400	0.56
Stockpile No. 2a (sub-ore)	673,300	0.44
Stockpile No. 3 (ore)	23,100	0.67
Stockpile No. 3a (sub-ore)	92,200	0.64
Stockpile No. 3b (ore)	12,800	1.40
Stockpile No. 4 (ore)	3,500	0.90

Under present marketing conditions and current copper prices, the material classified above as sub-ore grade could not be economically treated.

Exploration — Gortdrum Mine Lease Area

Exploration continued throughout the Gortdrum block of licences including field mapping, geophysical surveying and 10 diamond drill holes totalling 4,342 feet were completed during the year.

Although to date only minor amounts of mineralization have been indicated associated with the major faulting to the northeast of the mine, further geophysics and diamond drilling are planned in this area during 1972.

GENERAL EXPLORATION

As previously described in the President's Report to Shareholders, economic considerations and other factors made it necessary for the Company to review both its exploration budgets and priorities for the current year. For the present, with the exception of Ireland, direct exploration is being phased out.

The main thrust of 1972 exploration activities will be directed toward the continuation of the long sustained exploration of the ground held under prospecting licences in the Republic of Ireland.

In addition to its direct exploration, the Company continues to participate in mineral exploration in many other countries through the activities and joint ventures of its affiliated companies including Anglo United Development Corporation Limited, Westfield Minerals Limited and Whim Creek Consolidated N.L.

The diamond drilling program at the gold property at Salave in Northwestern Spain was suspended late in 1971. While definite encouragement was encountered in the substantial number and frequency of gold intersections obtained, neither the grade nor tonnage potential indicated from the work completed, together with the onerous terms of the option payments, justified the continuation of the scale of expenditure under present economic circumstances.

A major company has recently assumed a working option on the Salave gold property of Northgate's Spanish subsidiary, Imebesa S.A., and under the agreement your Company will be reimbursed for certain of its exploration expenditures in the event that economic gold mining operations are achieved.

During the year a group of claims were staked at Orsavinya, north of Barcelona, Spain, covering a possible porphyry copper occurrence. Although exploration activities being conducted by our Spanish subsidiary, Imebesa S.A., have been suspended and the office at Madrid closed, the Hortsavina porphyry prospect is being retained with a view to carrying out the necessary preliminary evaluation when circumstances permit.

Reconnaissance exploration and mineral property evaluations were made throughout several areas during the year, including Greece, Africa, Saudi Arabia, Turkey and Malaysia. These, however, were not further pursued owing to prevailing economic considerations.

Exploration on certain projects in Canada were phased out early in 1972 including the program on the optioned claims in the Rush Lake area of Ontario where diamond drilling to test various geophysical and surface targets failed to encounter mineralization of economic significance.

The large group of 504 claims staked in the Darnley Bay district, Northwest Territories, was investigated by airborne magnetometer and electromagnetic surveys indicating that the possible target areas lie at depths ranging to 1,000 feet or more. These claims are in good standing for some time and negotiations are currently under way with other companies for the purpose of obtaining their participation in the future exploration on this claim group.

Share interests are also held in such companies as Frontier Exploration Limited, Nadina Explorations Limited and International Obaska Mines Limited, all of which are continuing active exploration in Canada. The Owen Lake area property of Nadina Explorations Limited has been optioned to Bralorne Can-Fer Resources Limited and a new operating company called Bradina has been organized which is currently engaged in the construction of a 500 tons per day treatment plant and other ancillary facilities designed to bring this mine into production early in 1972.

Oil and Gas Exploration

Your Company's wholly owned subsidiary, Irish Base Metals Limited, is participating in an exploration program for oil and gas being conducted in Irish Continental Shelf areas. The program is being carried out by Hibernian Oil & Gas Limited, an Irish company, in

which Irish Base Metals Limited holds a 20% interest and Siebens Oil & Gas (U.K.) Limited an 80% interest.

The shareholders of Siebens Oil & Gas (U.K.) Limited are as follows:

Siebens Oil & Gas Limited of Calgary, Alberta
Hambros Bank Limited
Guardian Royal Exchange Assurance Limited
Coalite & Chemical Products Limited
Phoenix Assurance Company Limited

Siebens Oil & Gas (U.K.) Limited has been granted a nonexclusive petroleum prospecting licence from the Department of Industry and Commerce, Dublin, Ireland, and application has been made to assign this licence to its subsidiary, Hibernian Oil & Gas Limited. A reconnaissance seismic survey totalling 2,048 miles has been conducted in waters covering the Continental Shelf to the south and west of Ireland. The data obtained from this survey are currently being interpreted but preliminary evaluation indicates the presence of several sedimentary basins which warrant further investigation.

AFFILIATED COMPANIES

Anglo United Development Corporation Limited

The Company's principal current activities are in the Republic of Ireland where it has interests in a total of 75 prospecting licences including the following:

1. Fifty-three licences which are the subject of a working option agreement with La Societe Miniere et Metallurgique de Penarroya (Penarroya). Under the agreement, Anglo United has undertaken to spend not less than \$100,000 in exploration on the licences prior to October 31, 1972. The option can be extended from year to year thereafter until October 31, 1975 provided Anglo United agrees to spend at least \$100,000 in each year for which an extension is requested.

2. Two licences which are wholly owned by Anglo United and 20 further licences held jointly with other companies with varying degrees of percentage interests, principally with Tara Exploration and Development Company Limited, and Northgate's wholly owned subsidiaries, Irish Base Metals Limited and Enfer Holdings Limited. Twelve of the latter licences have been optioned to Amax Exploration of U.K. Inc. under an agreement whereby Amax can earn a 50% interest by the expenditure of \$150,000 over a period to December 31, 1972.

In addition to the above, Anglo United holds a prospecting licence covering a portion of Island Magee in County Antrim, Northern Ireland, in an area of proven salt beds and in the vicinity of a salt mining operation.

In Canada, the Company has various mineral rights in the Northwest Territories including an undeveloped 20-claim gold property in the Yellowknife Area and a 75% interest in a group of 203 mining claims in the Camsell Lake District, plus varying modest interests in petroleum acreage in Western Canada.

Anglo United and its wholly owned investment subsidiary hold a block of 246,333 shares of Northgate Exploration Limited. Working capital (exclusive of investments) at October 31, 1971 was \$692,324. During February, 1972 the Company sold 125,000 treasury shares the proceeds of which amounted to \$136,250.

At December 31, 1971 Northgate's interest in Anglo United Development Corporation Limited was 1,089,500 shares equal to approximately 17% of the presently issued shares.

Westfield Minerals Limited

Both directly, and indirectly through subsidiary and affiliated companies, Westfield Minerals Limited has widespread exploration interests in Canada, Australia and Greenland. The following information is based upon the 1971 Annual Report of Westfield Minerals Limited.

Westfield's interest in Greenland derive from its 15.2% interest (611,069 shares) in **Vestgron Mines Limited** which is currently conducting an underground exploration project at the zinc-lead deposit at Marmorilik on the concession held by its wholly owned subsidiary, Greenex A/S. Cominco Ltd., the majority shareholder in Vestgron, is providing the administrative and technical direction on this project.

Vestgron has recently reported that the underground exploration program at Marmorilik is making good progress. Early in 1971, the Icebreaker, C. D. Howe, was purchased by Vestgron to carry supplies to Marmorilik and has subsequently been used as a floating base camp. During the summer, a double track cable car system with a span of 1500 metres was constructed across the fjord to an underground station inside the mountain almost 600 metres above the sea.

Vestgron noted that shareholders were advised in December 1970 that the reserves were estimated at that time at 2.5 million tons averaging 0.8 ounces of silver per ton, 4.3% lead and 18.3% zinc, located in two zones, the Black Angel Zone (where work is currently concentrated) and the Cover Zone situated some 5,000 feet to the east. On the basis of the information derived from the underground program to date, these estimates will obviously require upward revision, but with work currently in progress any revision in these estimates at this moment would be premature.

As a result of a rights offering to shareholders in December 1970, Vestgron realized some \$3.5 million an amount which was estimated at that time would be sufficient to complete the program currently under way at Marmorilik. The most recent report notes that the estimated cost of the program has been upwardly revised to \$4.5 million and the Directors of Vestgron have authorized an offering to shareholders to raise \$1 million in order to complete the current work program and to finance a feasibility study. Westfield stated it intends to maintain its percentage interest in Vestgron.

In Vestgron's report it is noted that apart from the increase in costs which require supplementary funds, the program has proceeded satisfactorily to date and the major tasks of installing the cable car, power plant, and opening the underground workings, were successfully accomplished. Drilling has progressed without difficulties and the results are encouraging and indicate additional mineral reserves so as to fully justify the completion of the program.

The results of all the drilling, both surface and underground, available to February 18, 1972, are set out in the following table. Note that the V series of drill holes are the earlier surface holes completed in the 1966-67 program.

Hole Number	Apparent True Thickness of mineralization in metres	% Lead	A S S A Y S	
			% Zinc	gr./metric ton Silver
Surface 1966-67				
V 1	Lost in permafrost	1.6	20.7	1.7
V 2	Lost in permafrost	4.8		
V 3	3.2	1.6	20.7	1.7
V 4	10.5	4.8	20.1	41.1
V 5	2.1	7.6	34.6	8.2
V 6	Nil	—	—	—
V 7	Nil	—	—	—
V 8	0.6	0.8	3.5	10.3
V 9	0.9	5.8	33.3	46.0
V10	Nil	—	—	—
V11	9.3	2.9	26.4	27.4
V12	3.1	0.2	27.0	3.0
V13	5.0	0.7	4.2	6.0
V14	9.8	7.3	17.3	44.6
V15	8.1	4.9	12.6	27.0
V16	1.1	4.0	6.6	18.0
V17	Nil	—	—	—
V18	Nil	—	—	—
V19	Nil	—	—	—
V20	8.0	7.5	17.2	46.0
V21	not completed due to end of season weather			
Underground 1971-72				
1-1	(4.7	6.8	18.0	37.2
	(2.8	0.1	57.0	*
1-2	1.0	5.3	12.3	31.0
1-3	1.2	2.0	7.2	—
1-4	8.0	1.9	5.4	25.0
2-1	6.0	6.5	23.9	*
2-2	(1.7	1.6	9.6	*
	(1.9	10.5	20.5	*
2-3	4.3	9.7	22.6	*
2-4	5.4	5.6	19.0	40.7
2-5	4.8	5.6	21.3	34.5
2-6	1.5	10.0	25.3	53.0
2-7	(4.3	3.7	18.0	26.0
	(3.6	1.9	9.6	17.4
2-8	2.4	3.7	16.5	25.0
2-9	Nil	—	—	—
3-1	0.6	*	*	*
3-2	13.0	9.5	25.0	*

1 metre = 3.28 feet

grams/metric ton x .0292 = troy ozs./short ton

* Assays not yet available

Westfield's interests in Australia derive from its 34.1% interest (3,750,000 shares) in **Whim Creek Consolidated N. L.** plus an option to purchase 2,750,000 additional shares at the greater of A\$1.50 per share or a price equal to a 10% discount on the average market price in Australia for the 90 days preceding the date of exercise of the option. The option extends to December 31, 1974. Reference is made to the separate corporate profile on Whim Creek Consolidated N. L.

In Canada, Westfield Minerals Limited carried out a diamond drilling program on its zinc-silver prospect in Rennie Township, Ontario, during mid-1971. This program consisted of seven drill holes, four of which intersected zinc and silver mineralization east of a cross-cutting diabase dyke, and three holes west of the dyke which failed to intersect the zone. In January, 1972, a gravity survey showed an anomaly northeast of the known zone which coincided with an earlier IP anomaly. Six additional claims were restaked to provide protection along the possible extensions of the zone to the east.

Westfield's working capital (exclusive of investments) was \$854,677 at December 31, 1971, compared to a deficit position of \$692,115 at December 31, 1970.

At December 31, 1971, Northgate's interest in Westfield Minerals Limited was 2,903,705 shares equal to

approximately 45% of the presently issued shares. In addition, Northgate holds 367,179 warrants entitling the purchase of a like number of shares from the treasury of Westfield at a price of \$1.25 per share exercisable on or before June 14, 1973.

Whim Creek Consolidated N. L.

During the period under review, Whim Creek and its wholly owned subsidiary, Westfield Minerals (W.A.) N. L., have actively continued various exploration projects, mainly involving nickel-copper sulphide prospects in the Roebourne District of the West Pilbarra region of Western Australia, some of which are in joint venture with other companies.

The extensive claim holdings and joint venture of Whim Creek and its subsidiary in the Roebourne District are located within ready access of the principal highways, the deep sea port at Port Hedland and the new government townsite at Karratha.

The principal projects of current interest are:

1) The **Roebourne Joint Venture** in which Whim Creek has a 54.57% interest and Anglo American Corporation (Australia) Limited a 45.43% interest. Here efforts have been focussed on the Ruth Well property where geological mapping, geophysical surveys, geochemical stream sampling, together with percussion and diamond drilling have been carried out.

2) The **INY/Whim Creek Joint Venture** in which Whim Creek has an 82.5% interest and United States Steel International a 17.5% interest. The ground involved, 47,000 acres, covers a large basic-ultra-basic complex and includes the former Munni Munni project and certain claims that were held by United States Steel International. Detailed geological mapping and geochemistry were completed late in the year.

3) The **Whundo Joint Venture** which is under the management of Consolidated Goldfields (Australia) Limited. Under this joint venture agreement, Consolidated Goldfields (Australia) Limited has the right to spend the sum of \$325,000 over a three-year term in order to earn a 51% contributing interest in the subject claims. After the \$325,000 has been expended, Whim Creek will have a continuing contributory interest of 39.5% and Anglo American 9.5%. This supersedes the former Whundo Joint Venture.

4) The **Mt. Sholl Project** which is wholly owned by Whim Creek. Here 21 diamond drill holes were completed in the period ended December 31, 1971. The recently published Whim Creek report detailed the results of 10 of these holes which encountered encouraging copper-nickel mineralization across good widths. Drilling in the first three months of 1972 continues to give encouraging results.

5) The **Mons Cupri Property** in which Whim Creek has a non-contributory interest of 31⅓% and the remainder held by Australian Inland Exploration Inc. Australian Inland Exploration Inc. recently reported that the soil and rock geochemical sampling program over Mons Cupri is now completed and the results are being assessed. Exploration is continuing.

In addition to the foregoing, Whim Creek and its subsidiary continued general exploration in other areas including New South Wales and Queensland during the year.

At December 31, 1971, Northgate's direct interest in Whim Creek Consolidated N. L. was 2,250,000 shares equal to 20.4% of the issued shares and its indirect beneficial interest (owing to its shareholding in Westfield Minerals Limited) is equal to approximately 36%. Northgate also has an option to purchase an additional 2,250,000 shares of Whim Creek on the same terms as the option granted to Westfield Minerals Limited.

Under this revised option agreement, Northgate jointly with Westfield has undertaken to exercise its option to purchase these treasury shares, in whole or in part, on request, to provide additional funds required by Whim Creek during the term of the option agreement to carry out exploration or development programs approved by the Board of Directors of Whim Creek.

Whim Creek is adequately funded for its presently planned exploration programs, reporting working capital for the period ended June 30, 1971 of A\$3,151,934.

The Black Angel Zone toward the top of the mountain about 2,500 feet above the sea, is clearly discernible in this spectacular picture taken at the site of Vestgron Mines' exploration program at Marmorilik, West Greenland. The ice-breaker, C. D. Howe, shown in the foreground, is being used as a floating base camp. Westfield Minerals Limited has an approximate 15% interest in this project.



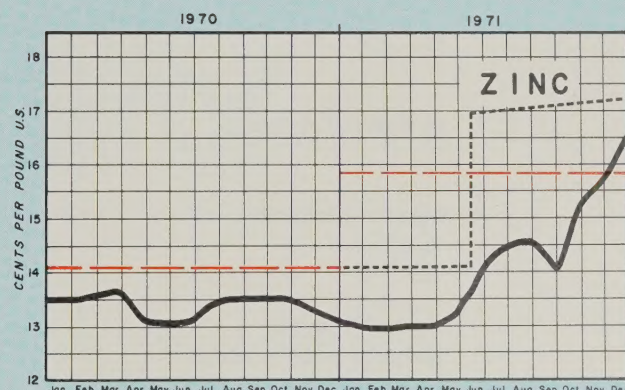
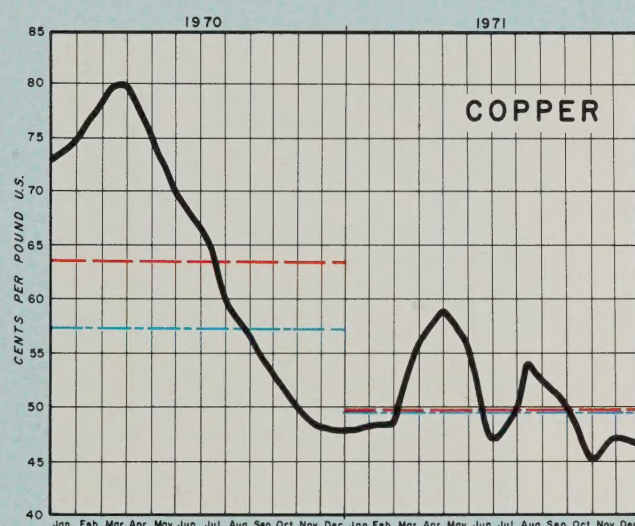
Metal Prices

The downtrend in metal prices experienced in 1970 was even more pronounced in 1971 during which lead, copper and silver quotations plunged to the lowest levels for several years, profoundly affecting the profit margins in the recovery of these metals from mining operations. The charts on this page show the average monthly spot prices quoted on the London Metal Exchange, expressed in equivalent U.S. funds, during 1970 and 1971 and the weighted average prices received by the Company's mining subsidiaries for these metals for each of the periods.

The price of lead dropped some 27% from the 1970 high around 15¢ per pound to the closing price at the end of 1971 slightly below 11¢ per pound. In this same two year period the price of copper declined

more than 40% from the 1970 peak around 80¢ per pound to the closing price at the end of 1971 around 46.5¢ per pound. Silver prices were particularly volatile with a series of dips that saw the price for this metal slump about 30% from the 1970 peak over \$1.90 per ounce to around \$1.32 at the low in November of 1971.

Zinc was a notable exception to the downtrend in metal prices. The European producer price on which the Company's smelter settlements are based increased from the 1970 level of 14.1¢ per pound in June of 1971 to the equivalent of 17¢ per pound. The moderate increase to the year end to slightly above 17¢ was the result of the change in currency rates.



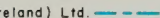
European Producer Price

LEGEND

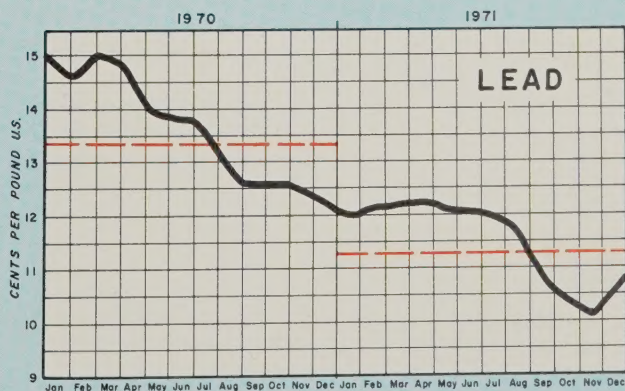
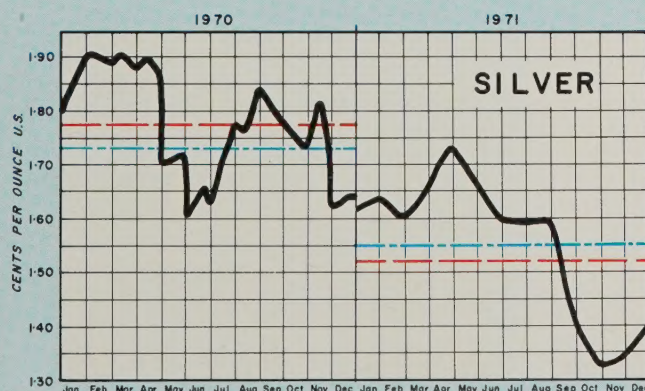
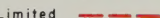
London Metal Exchange Price



Average received by Gortdrum Mines (Ireland) Ltd.



Average received by Irish Base Metals Limited



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(as at April 1, 1972)

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